CRREL hosts innovative "Advanced Ice Safety and Response" training

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The U.S. Army Engineer Research and Development Center's (ERDC) Cold Regions Research and Engineering Laboratory (CRREL) recently provided to Alaska Clean Seas (ACS), an oil spill removal organization (OSRO) based in Prudhoe Bay, Alaska, a facility for training their oil spill responders.

Oil spill responders from Prudhoe Bay, Alaska, recently trained at ERDC-CRREL on equipment for oil spill recovery and cleanup. In the above image, "students" practice hands-on crude oil cleanup with a rope mop skimmer. The field practical portion included proficiency checks in spill site safety and techniques. (Photo by Bill Burch, CRREL)

CRREL's Geophysical Research Basin was used for training, allowing students (oil spill responders) to experience hands-on recovery of crude oil spills in ice-infested water.

According to BP, the Prudhoe Bay oil field is the largest field in North America and the 18th largest field ever discovered worldwide. There are 1,114 production wells covering 213,543 acres and an estimated crude production of 475,000 barrels per day (19,950,000 gallons).

While safety, prevention and preparedness are the highest priorities for oil exploration and production companies in the Arctic, oil spills remain a possibility. So, like a fire department, oil spill responders are kept ready at a moment's notice and are trained on the methods and equipment used to contain and mitigate oil spills on land and at sea.

In image on left, Alaska Clean Seas (ACS) Instructor Chris Hall provides guidance on the monitoring of oil under ice using ground penetrating radar during the field practical portion "Advanced Ice Safety and Response" training hosted recently at CRREL. (Photo by Timothy A. Hilliard, ACS)

Civil Engineer Leonard Zabilansky and Bill Burch, both with CRREL's Engineering Resources Branch, provided facility and onsite assistance to ACS Training Specialist Chris Hall and 31 members from ACS and the North Slope Spill Response Team during a four-day

Advanced Ice Safety and Response course. The course was taught in two phases, classroom lecture/discussion and a field practical setting. Classroom presentations were made by ACS, CRREL, the National Oceanic and Atmospheric Administration, Eastern Canada Response Corp., the U.S. Coast Guard Research and Development Center, and the four equipment vendors who supported the training.

“This training provided an opportunity for learning the limitations of using recovery systems in ice,” said Zabilansky, “making the responders more efficient in addressing oil spills.”

The field setting was the laboratory’s Geophysical Research Facility, a concrete basin measuring 60 ft. long by 22 ft. wide and 7 ft. deep, with a removable, refrigerated roof for growing sea ice.

Photo shows burning of oil collected in a recovery trench. In the foreground, oil residue in broken ice is visible in the pit from previous burn. This is an accepted and extremely efficient method of mitigating oil spills in ice-infested waters.
(Photo by M. Darling, ERDC-PAO)

The field practical portion included proficiency checks with vendor-provided and ACS-owned equipment. Exercises included spill site safety, site set up, ice safety and profiling, and delineation using ground penetrating radar and underwater lights.

“This is the only kind of facility in North America where we can put oil into a basin creating a realistic sea ice environment, and train to clean up oil under ice,” said Hall. “We were able to train with all aspects of our response tactics, including surveillance and delineation; containment and mechanical recovery using skimming and pumping systems specially adapted for ice environments; and training with *in situ* burning techniques.”

“This training was a long time in coming. Thankfully, timelines came together and CRREL was able to provide us the basin. Alaska Clean Seas appreciates the help and support of the CRREL team and looks forward to continued training and R&D projects using this facility.”

Additional training is tentatively scheduled for Feb. 2013.